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the tropical African flora, as illustrated by this family. In 1868, the date of publication of the first volume of the *Flora of tropical Africa*, only 13 genera and 59 species of Anonaceae were known; while in 1901 there were 23 genera and 170 species recorded, and at present 27 genera are known. In the present paper the limits of certain genera are revised and several species are transferred. New species are also described in *Artabotrys*, *Isolona*, *Oxymitra* (3), *Uvaria*, and *Xylopia*.

WERNHAM<sup>20</sup> has published a new genus (*Pseudomussaenda*) of Rubiaceae from the "Nile-land districts" of tropical Africa. It includes 3 species formerly referred to *Mussaenda*, to which a new species is added.—J. M. C.

**Extraction of sap.**—GORTNER, LAWRENCE, and HARRIS<sup>21</sup> have repeated and extended the work of DIXON and ATKINS on the extraction of sap from plant tissues. Their primary purpose was to determine something concerning the nature, amount, and regularity of the change in the concentration of the sap extracted from a mass of tissue under continuous pressure. The results secured fully substantiate the conclusions of DIXON and ATKINS that samples of sap pressed from unfrozen tissues cannot be taken as typical of the original concentration of the juices in the tissues. In general, successive samples extracted by continuous pressing become more concentrated. The authors have shown that such, however, is not always the case. In some instances the fluid may become less and less concentrated, for example, extractions from cabbage leaves. In other instances all fractions may be about the same in concentration. The development of the freezing method to render tissues permeable and thereby obtain typical samples of sap has marked a great advance in the study of the properties of vegetable saps.—CHAS. O. APPLEMAN.

**A new soil constituent.**—An unusual organic soil constituent has been isolated and identified as  $\alpha$ -crotonic acid by WALTERS and WISE.<sup>22</sup> This unsaturated acid was found associated with infertility in a Texas soil where drainage is poor, basic compounds deficient, and oxidizing power low. The physical and chemical properties of the purified soil acid agree with the properties of the synthetic acid. The occurrence of this acid in nature had not been certainly established previously. The authors suggest that it may be formed from aliphatic  $\beta$ -hydroxy acids which are produced during the destruction of cellulose, or by hydrolysis of allyl cyanid which occurs in the essential oils of some plants.—CHARLES A. SHULL.

<sup>20</sup> WERNHAM, H. F., *Pseudomussaenda*, a new genus of Rubiaceae. Jour. Botany 54:297-301. 1916.

<sup>21</sup> GORTNER, ROSS AIKEN, LAWRENCE, JOHN V., and HARRIS, J. ARTHUR, The extraction of sap from plant tissues by pressure. Biochem. Bull. 5:130-141. 1916.

<sup>22</sup> WALTERS, E. H., and WISE, LOUIS E.,  $\alpha$ -Crotonic acid, a soil constituent. Jour. Agric. Research 6:1043-1045. 1916.